

a tip for contacting biological tissue;

and at least one portion located between said contact point and said tip having an spiral inhomogeneous cross section.

29. A longitudinal-torsional resonator comprising

a connection point for receiving longitudinal vibration;

a tip for contacting biological tissue;

at least one portion located between said contact point and said tip having a spiral inhomogeneous cross section;

and at least one hole extending from said tip to said connection point.

30. A longitudinal-torsional resonator comprising

a connection point for receiving torsional vibration;

a tip for contacting biological tissue;

at least one portion located between said contact point and said tip having a spiral inhomogeneous cross section;

and at least one hole extending from said tip to said connection point.